

WHAT IS CLAIMED IS:

1. An interactive imaging system comprising:

a display for displaying a displayed image in initial and transformed states; and

a processing system that segments the displayed image into a plurality of
impressible regions; operates on at least one input signal by associating at least one input
signal to at least one impressible region, whereby the at least one input signal transforms
the impressible region to a different state, thereby transforming the state of the displayed
image.
2. The system as in claim 1, wherein said display is a single liquid crystal display
(LCD).
3. The system as in claim 1, wherein said display is a plurality of liquid crystal
displays (LCDs) in mosaic form.
4. The system as in claim 3, wherein each of the plurality of LCDs is mounted on
adjustable, motorized supports, said support being responsive to said at least one input
signal.
5. The system as in claim 3, wherein each of the plurality of LCDs of said display
displays a different displayed image.

6. The system as in claim 3, wherein each of the plurality of impressible regions is displayed on an individual LCD of the plurality of LCDs.
7. The system as in claim 1, wherein said at least one input signal is generated from a sensor chosen from the group consisting of a camera, a pressure-sensitive tactile sensor, a microphone and a scent detector.
8. The system as in claim 1, further comprising an audio system for playing a digital audio file responsive to the at least one input signal.
9. The system as in claim 1, further comprising a storage means for storing a plurality of images to be used as the initial displayed image and for storing the transformation of the displayed image for a period of time.
10. The system as in claim 1, wherein the processing system further comprises a program library including one or more imaging vision modules for at least one selected from the group of segmenting human motion and faces, finding overall color of a user's clothes, determining overall color in a room and determining the texture of an object, the one or more imaging vision modules operating on an input image signal to determine the transformation of an impressible region to a different state.
11. The system as in claim 1, wherein said at least one input signal is generated by the presence of a person in the proximity of the displayed image and said processing system

identifies at least one characteristic of the at least one input signal and associates the at least one characteristic of the at least one input signal to the at least one impressible region, the at least one characteristic transforming the state of the at least one impressible region.

12. The system as in claim 1, wherein said at least one input signal is an image and said processing system identifies at least one expression of a person and transforms the displayed image based on the identified expression.

13. The system as in claim 1, wherein said at least one input signal is an image and said processing system identifies at least one color of a person's clothes and transforms the displayed image based on the identified color.

14. The system as in claim 1, wherein said at least one input signal is a voice and said processing system identified a tone of the voice and operates on the displayed image as a function of the tone.

15. A method for processing an image, the method comprising the steps of:
displaying an initial image on a display means;
segmenting the initial image into a plurality of impressible regions;
processing at least one input signal; and

associating the at least one input signal to at least one of the plurality of impressible regions and transforming each of the at least one impressible region to a different state based on the associated at least one input signal.

16. The method as in claim 15, further comprising the step of acquiring the initial image using a camera.

17. The method as in claim 15, further comprising the step storing a plurality of images to be used as the initial image.

18. The method as in claim 15, wherein said display means is a single liquid crystal display (LCD).

19. The method as in claim 15, wherein said display means is a plurality of liquid crystal displays (LCDs) in mosaic form.

20. The method as in claim 19, wherein the step of displaying the initial image includes displaying a different initial image on each of the plurality of LCDs of said display means.

21. The method as in claim 19, wherein the step of segmenting the initial image into a plurality of impressible regions includes displaying each of the plurality of impressible regions on individual LCDs of the plurality of LCDs.

22. The method as in claim 15, wherein said at least one input signal is generated from a sensor chosen from the group consisting of a camera, a pressure-sensitive tactile sensor, a microphone and a scent detector.

23. The method as in claim 15, further comprising the step of playing a digital audio file through an audio means responsive to the at least one input signal.

24. The method as in claim 15, further comprising the steps of:
recording the transformation of the initial image over a period of time; and
playing the recorded transformation on the display means.

25. The method as in claim 15, wherein the step of processing the at least one input signal further includes the steps of:

segmenting human motion from an acquired image acquired by the at least one input sensor;

determining overall color of clothes of the human in the acquired image;

determining overall color of the acquired image; and

determining texture of the human in the acquired image.

26. The method as in claim 15, wherein each of the at least one input signal is associated to at least one of the plurality of impressible regions based on a type of each of the at least one input signal.

27. The method as in claim 26, wherein a module is invoked based on the type of each of the at least one input signal, the module associating the respective input signal to at least one of the plurality of impassible regions.

28. The method as in claim 15, wherein the transformation of the at least one impassible region to a different state is based on a type of the associated at least one input signal.

29. The method as in claim 28, wherein a module is invoked based on the type of each of the at least one input signal, the invoked module for each input transforming the associated at least one impassible region for the input.

30. The method as in claim 15, wherein the step of associating the at least one input signal to at least one of the plurality of impassible regions is defined by a plurality of active rules which triggers the transform based on the at least one input signal.

31. The method as in claim 30, wherein at least one of the plurality of active rules is uni-modal.

32. The method as in claim 30, wherein at least one of the plurality of active rules is cross-modal.